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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,459	03/26/2001	Fritz Schwertfeger	HOE96/F319CON	1602

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Martha Ann Finnegan
Chief Intellectual Property Counsel, Cabot Corp.
Billerica Technology Center
157 Concord Avenue
Billerica, MA 01821-7001

EXAMINER

LOVERING, RICHARD D

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 07/24/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,459

Applicant(s)

SCHWERTFEGER ET AL.

Examiner

LOVERING

Group Art Unit

1712

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on MAR 26 + APR 26, 2001
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-66 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-66 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☒ received in Application No. (Series Code/Serial Number) 09/308,888
- ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☒ Notice of Reference(s) Cited, PTO-892
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Prof. 5/15/96
3. Claims 1, 2, 4, 8-12, 17, 18, 25, 26, 31-33, 38, 47-50, 52, 54 and 55 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Deshpande et al. WO 94/25149, esp. Example 3.

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4. Claims 39, 40, 51, 60 and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Deshpande et al. above. The especially pertinent portions of Deshpande et al. are pointed out in the preceding paragraph. As to claims 60 and 61 herein, while Deshpande et al. may not state that their method is carried out continuously or semi-continuously, it would have been obvious to one skilled in the art at the time applicants' invention was made to convert the batch operation of Deshpande et al. to a continuous or semi-continuous operation, since such conversion is obvious to one skilled in the art. See In re Korpi, 71 USPQ 229; and In re Dilnot, 31 F. 2d 188; 138 USPQ 248 (CCPA 1963). As to claims 39, 40 and 51 herein, while Deshpande et al. may not specify the % or degree of coverage for the thermal conductivity of their products, choice of suitable or optimum values of these parameters is within the skill of the art, absent a showing of criticality. See In re Aller et al. 220 F. 2d 454; and In re Swain, 156 F. 2d 239. Further as to thermal conductivity, note that Deshpande et al. contemplate values as low as 0.01 W/mK (page 2, lines 6-12).

5. Claims 1-3, 8-12, 22, 25, 26, 31, 33, 38, 47-50, 52, 54-55 and 64 are rejected under 35 U.S.C. § 102(a) as being anticipated by Jansen et al. 5,647,962, esp. Abstract; and Example I.

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The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. § 102(e). This rejection under 35 U.S.C. § 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

6. Claims 6, 7, 13, 35-37, 39-43, 45, 46, 51, 60 and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jansen et al. above. The especially pertinent portions of Jansen are pointed out in the preceding paragraph. While Jansen et al. may not state that their method is carried out continuously or semi-continuously, as to claims 60 and 61, it would have been obvious to one skilled in the art at the time applicants' invention was made to convert the batch operation of Jansen et al. to a continuous or semi-continuous operation, since such conversion is obvious to one skilled in the art, noting the holdings of the Korpi and Dilnot decisions in paragraph 4 above. As to claims 39, 40 and 51, while Jansen et al. may not specify the % or degree of coverage for the thermal conductivity of their products, choice of suitable or optimum values of these parameters is within the skill of the art, absent a showing of

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criticality, noting the holdings of the Aller et al. and Swain decisions in paragraph 4 above. As to claims 6, 7, 35-37, 41, 43, 45 and 46, while Jansen et al. do not exemplify using an additive in their method and product, they clearly suggest adding IR opacifiers in column 2, lines 55-59, and thus render it prima facie obvious. As to claims 36 and 42 herein, an ionic additive e.g. NaCl or Na₂SO₄, would be introduced in the product in the embodiment of Jansen et al. in which acid, e.g. HCl or sulfuric acid, is used in lieu of an acid ion exchanger (column 1, lines 49-51). As to claim 13 herein, while Jansen et al. may not exemplify the use of hexamethyl-disilazane as the silylating agent, they at least suggest it in column 2, lines 39 and 40, thus rendering it prima facie obvious.

7. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jansen et al. as applied to claims 6, 7, 35, 37, 41 and 43 above, and further in view of Geiss et al. WO 96/12683. While Jansen et al. above do not disclose adding fibers to their hydrophobic SiO₂ aerogel composition, it would have been obvious to one skilled in the art to add e.g. glass or mineral fibers to said hydrophobic silica aerogel compositions of Jansen et al. in view of the suggestion of Geiss et al. (page 5, line 14 - page 10, line 1).

8. Claims 4 and 56-59 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jansen et al. above in view of

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McDaniel et al. 4,316,807. While Jansen may not disclose the details of their embodiment using acid in lieu of an acid ion exchanger (see paragraph 6 above), it would have been obvious to one skilled in the art to have reference to McDaniel et al.

(Example VII referring to Example I) to supply such details.

9. Claims 1-3, 8-11, 31, 33, 34, and 48-58 are rejected under 35 U.S.C. § 102(e) as being anticipated by Schwertfeger et al. 5,888,425, esp. Examples 1-3 and column 2, line 44 - column 4, line 62.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. § 102(e). This rejection under 35 U.S.C. § 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

10. Claims 35, 37, 39, 40, 44, 46, 51, 60 and 61 are rejected under 35 U.S.C. § 103(a) as being obvious over Schwertfeger et al. above.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35

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U.S.C. § 102(e). This rejection under 35 U.S.C. § 103(a) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application of any unclaimed subject matter prior to the effective U.S. filing date of the reference under 37 CFR 1.131. While Schwertfeger et al. may not state that their method is carried out continuously or semi-continuously, as to claims 60 and 61, it would have been obvious to one skilled in the art at the time applicants' invention was made to convert the batch operation of Schwertfeger et al. to continuous or semi-continuous operation, since such conversion is obvious to one skilled in the art, noting the holdings of Korpi and Dilnot decisions in paragraph 4 above. As to claims 39, 40, 46 and 51, while Schwertfeger may not specify the % or degree of coverage for the thermal conductivity of their products, choice of suitable or optimum values of these parameters is within the skill of the art, noting the holdings of Aller et al. and Swain decisions in paragraph 4 above. As to claims 35, 37 and 44, while Schwertfeger et al. do not exemplify using an additive in their method and product, they clearly suggest adding IR opacifiers in column 5, lines 1-4, thus rendering it prima facie obvious.

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11. The non-statutory double patenting rejection, whether of the obvious-type or non-obvious-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78 (d).

Effective January 1, 1994, a registered attorney or agent of record may sign a Terminal Disclaimer. A Terminal Disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-3, 8-11, 31, 33, 34, 48, 49, 50-56 and 58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 5,888,425. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims read on, or at least overlap, the claims of the '425 patent.

13. Claims 1, 2, 4, 6, 8-11, 13-23, 25, 26, 31, 33, 35-38, 41, 42, 45, 47, 49, 50 and 52 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Burns et al. 6,107,351, esp. Example 1 and Table 1.

14. Claim 5 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being

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unpatentable over claims 2-21 of copending application Serial No. 09/578,665. Although the conflicting claims are not identical, they are not patentably distinct from each other because (the instant claim reads on, or at least overlaps, the claims of the '665 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1, 24, 27 and 50-53 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sado et al. 5,134,110. The instantly-claimed lyogels and their use in chromatography are anticipated by Sado et al. (especially Examples 1-38, noting also column 2, line 16 - column 6, line 18), or is at least clearly within the purview of Sado et al., and thus would have been obvious therefrom to one of ordinary skill in the art at the time applicants' invention was made. Addressing the 103 aspect of this ground of rejection, while Sado et al. don't specify the % of surface covered with the organic groups, they at least suggest covering 90% or more because they teach minimizing the influence of residual silanol groups in the paragraph bridging columns 5 and 6.

16. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

17. Claims 1, 8-33, 35-46, 48-55 and 60-66 are rejected

under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for inorganic hydrogel(s), aerogel(s) and lyogel(s) does not reasonably provide enablement for organic hydrogel(s), aerogel(s) and lyogel(s). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. {Organic hydrogel(s), aerogel(s) and lyogel(s) differ greatly from their inorganic counterparts, and applicants have given no directions for applying their surface modification procedure to organic gels. It would involve undue experimentation on the part of one having ordinary skill in the art to determine which organic gels, if any, would be operative, and to determine reaction conditions, etc.}

18. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicants regard as their invention.

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See IN Pkt 2

19. Claims 3, 22, 34, 36-38, 48, 50 and 53 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 22, 34, 36 and 37 recite the broad recitations "is generated"; "condensable orthosilicate"; "ionic compounds"; and "opacifiers", and the claims also recite "preferably by means of an acid"; "preferably an alkyl and/or aryl orthosilicate"; "preferably

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NaCl"; and "preferably IR opacifiers", resp. which ^{are} ~~is~~ the narrower statement^s of the range/limitation.

Claims 48 and 53 provide ^{here} ~~for~~ the use of aerogel as thermal insulation material or in chromatography, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicants are intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 48 and 53 are rejected under 35 U.S.C. § 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. § 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim 3 is indefinite and incomplete in not reciting --or-- after "resin," in line 10.

Claims 38, 50 and 53 ^{are} ~~are~~ indefinite and incomplete in not stating what R stands for.

20. Claims 28-30, 62, 63, 65 and 66 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. § 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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X
21. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record doesn't disclose or fairly suggest the process(es) specified in claims 28-30, 62, 63, 65 and 66 herein.

X OK
22. The abstract of the disclosure is objected to because it is not in the form of a single paragraph. Correction is required. See MPEP § 608.01(b).

X
23. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicants may become aware in the specification.

X OK
24. Applicants should rewrite the paragraph inserted on page 1 of the specification by their preamendment filed March 26, 2001 to include the filing date and status (now abandoned) of SN 09/308,888.

X
25. The remaining references listed on the attached Form PTO-1449 and two Forms PTO-892 (one from parent case 09/308,888) are cumulative to the references applied herein, and/or further show the state of the art. (Note that U.S. 5,948,314 is an English language translation of WO 96/12683.)

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Lovering whose telephone number is (703) 308-0443. The examiner can normally be reached on Mon.-Fri. from 7:30 A.M. to 4:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson, can be reached on (703) 308-2340. The fax phone number for this Group is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

R. Lovering:cdc
July 22, 2002

Richard D. Lovering
RICHARD D. LOVERING
PRIMARY EXAMINER
GROUP 1200